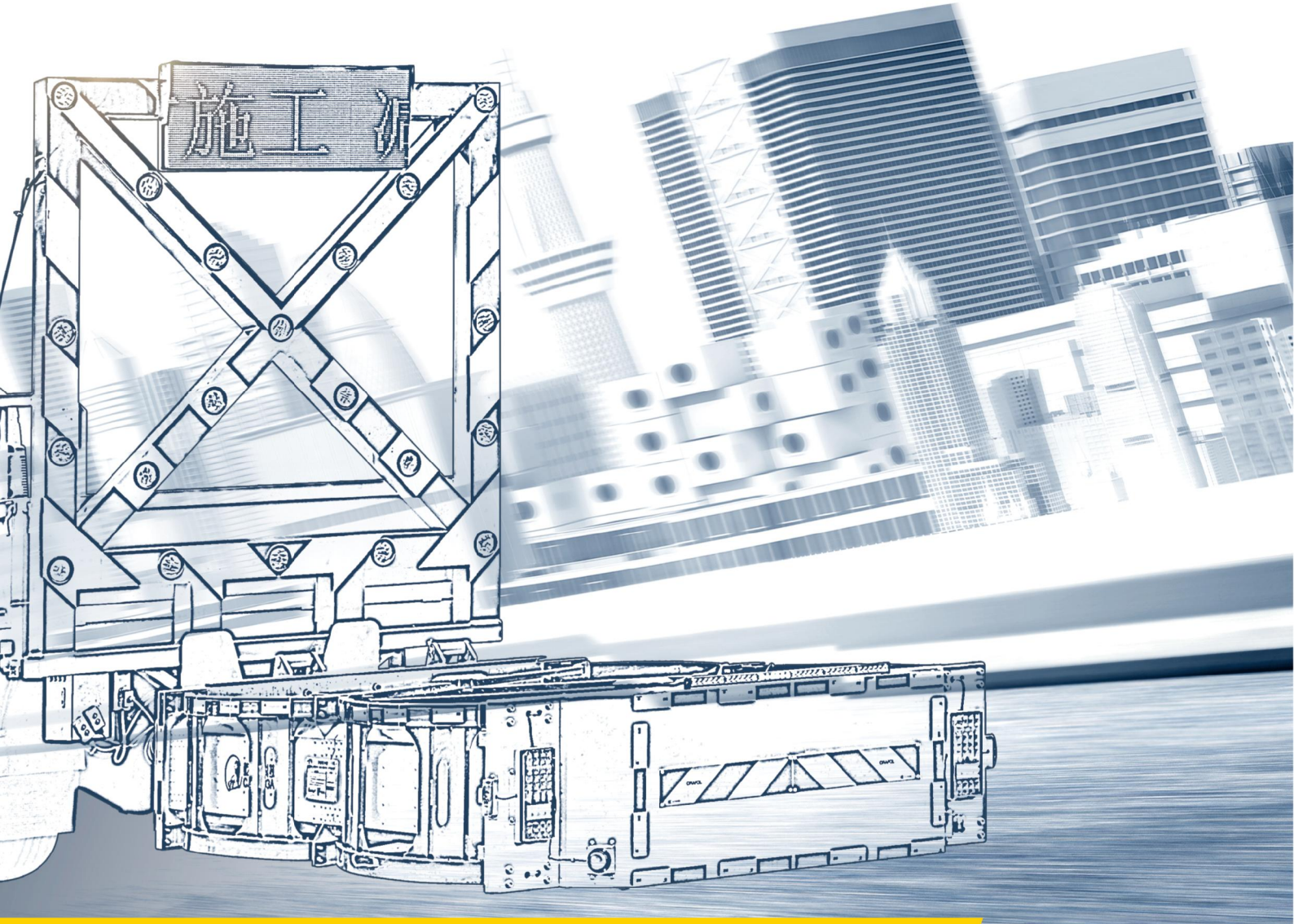
乾行达科技
CANSINGA



CANSINGA AUTOMOBILE SAFETY

Automotive Safety

Protection Solution Provider

Catalogue

1 Company Profile 01

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3 Safety Protection Products 07

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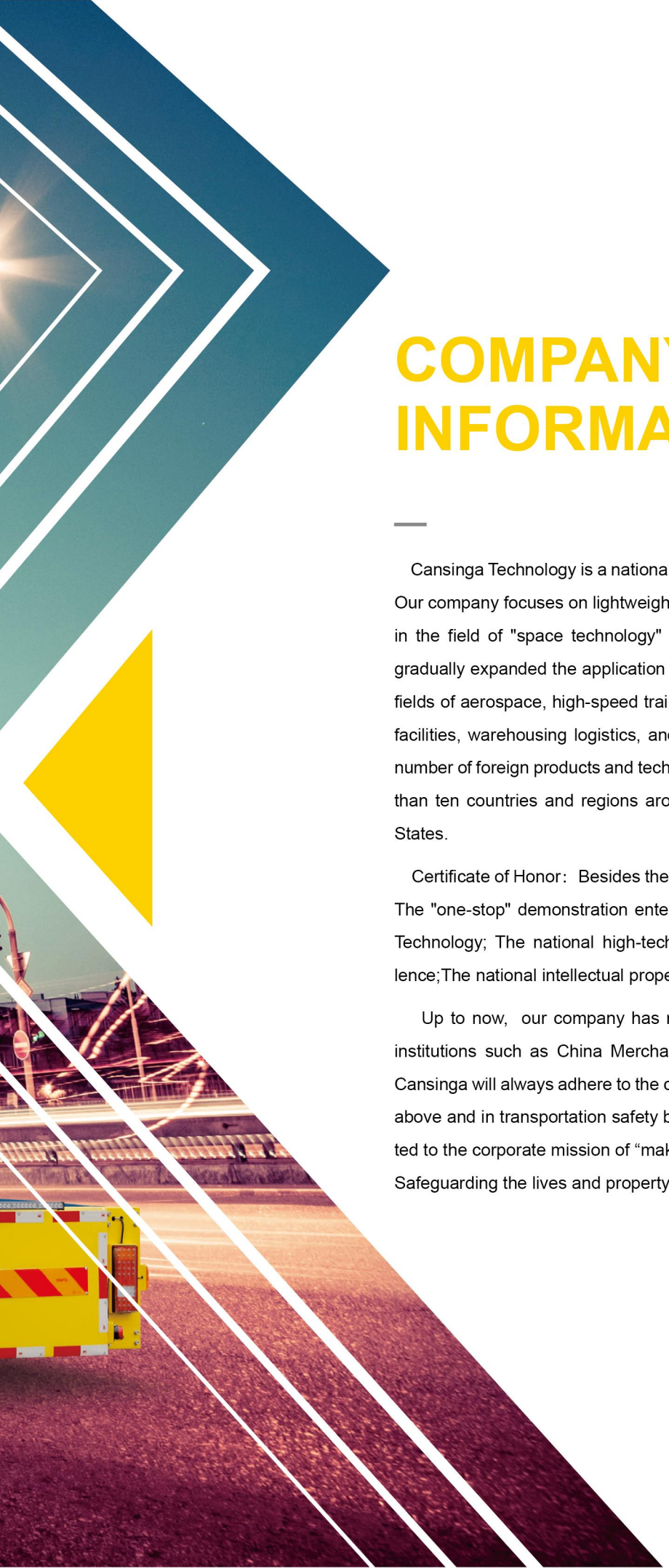
施工
防撞缓冲车



COMPANY INFORMATION

Cansinga Technology is a national key "Little Giant" enterprise led by academicians. Our company focuses on lightweight and safety protection technologies and products in the field of "space technology" + "transportation", while the founding team has gradually expanded the application of lunar lander landing cushion technology to the fields of aerospace, high-speed trains, automotive safety, transportation and security facilities, warehousing logistics, and new energy vehicles. Successively breaking a number of foreign products and technology monopoly, performance has covered more than ten countries and regions around the world, including Europe and the United States.

Certificate of Honor： Besides the "Little Giant" firm Cansinga has been awarded as The "one-stop" demonstration enterprise of the Ministry of Industry and Information Technology; The national high-tech enterprise; The China Patent Award of Excellence;The national intellectual property advantageous enterprise.

Up to now, our company has received investment from well-known investment institutions such as China Merchants Capital and Shenzhen HTI Group Co., Ltd. Cansinga will always adhere to the corporate vision of "Assisting in reaching the moon above and in transportation safety below to achieve 'zero' fatalities", ",and is committed to the corporate mission of “making travel safer through technological innovation” Safeguarding the lives and property of the general public.

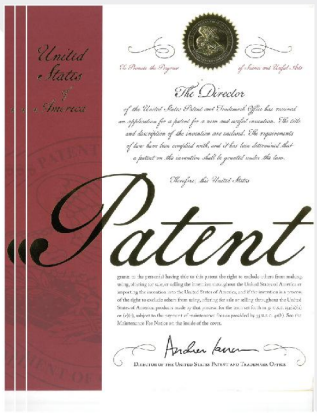
HONORARY QUALIFICATION

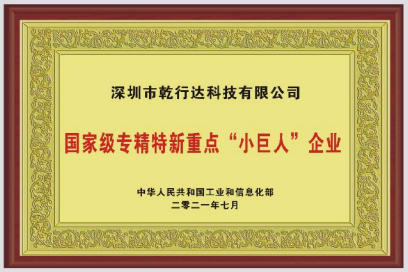
3 PCT International Patent

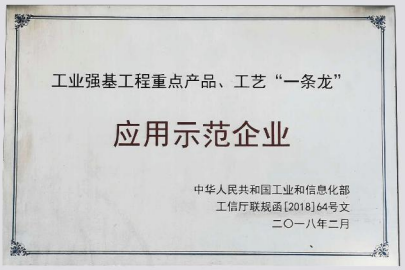
24 Patent For Invention

77 Patent For Utility Models

6 Design Patent



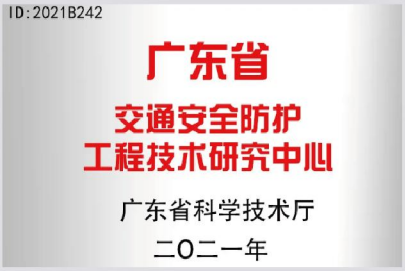

深圳市乾行达科技有限公司
国家级专精特新重点“小巨人”企业
中华人民共和国工业和信息化部
二零二一年七月


工业强基工程重点产品、工艺“一条龙”
应用示范企业
中华人民共和国工业和信息化部
工信厅联规函[2018]64号文
二〇一八年二月


高新技术企业
证书


邓宗全院士工作站
Deng Zongquan Academician Workstation


博士后创新实践基地
深圳市人力资源和社会保障局
二〇一八年十二月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广东省
交通安全防护
工程技术研究中心
广东省科学技术厅
二〇二一年


2022年省级制造业
单项冠军产品
广东省工业和信息化厅
二〇二三年四月


国家知识产权局
中国专利优秀奖


黑龙江省科学技术奖
证 书


行业决赛一等奖
中国深圳创新创业大赛组委会
二〇一七年


深圳市乾行达科技有限公司
广东省知识产权示范企业
广东知识产权保护协会
二〇二二年十二月


2021年度
深圳市知识产权优势单位
深圳市乾行达科技有限公司
深圳市知识产权局


授予：深圳市乾行达科技有限公司
第七届
深圳市自主创新百强中小企业

CORPORATE CULTURE

Corporate Vision:

Assisting in reaching the moon above and in transportation safety below to achieve 'zero' fatalities.

Corporate Mission:

Making travel safer through technological innovation.

Enterprise spirit:

Focus Professionalism Expertise.

Corporate Values:

Uphold Integrity, Innovate, Cooperate for Win-Win Results.

Product Concept:

People-Oriented, Life First.

STRATEGIC PARTNER

Aerospace Field

- 中国航天 CASC
- 武汉船舶设计研究所 WSDDI
- 中国航天科工集团 CASIC
- 中航工业 AVIC
- 湘电集团 XEMC
- 中国兵器 NORINCO GROUP
- 哈尔滨工业大学 HARBIN INSTITUTE OF TECHNOLOGY
- 中航工业 直升机设计研究所
- 魔方卫星 MagicCubeSat Technology Co., Ltd

Transportation Field

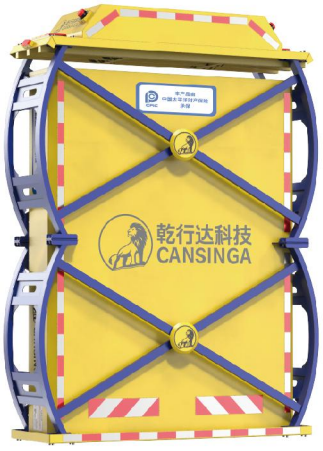
- 中国中车 CRRC
- 盈峰环境 INFORE ENVIRO
- 一汽-大众 FAW-VOLKSWAGEN / Audi
- 深圳路桥集团 SHENZHEN ROAD & BRIDGE GROUP
- 比亚迪汽车 BYD
- 徐工集团 XCMG
- 宇通集团
- CIMC 中集
- 东莞交投集团 DGCI GROUP
- 中汽中心 | 检测认证 中汽研汽车检验中心（天津）有限公司
- 交通控股

Safety Protection Products

RPD1340

Trailer Truck Mounted Attenuators

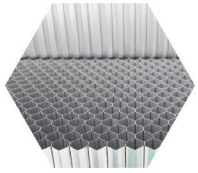
C70 / 80K



C100K

E50K

E60K



Aerospace technology

Lightweight

TUV certification

The full range of products is independently developed.

Independent R&D and design, national patent escort, efficient energy absorption, quality assurance.

Through multiple international certification standards.

The MASH 2016 collision detection standard in the United States and the internationally recognized German TUV certification products are exported overseas, and the safety and quality have been internationally recognized.

Professional process certification qualification.

German DIN6701 Adhesive System Certification, I5016949 Quality Management System Certification.

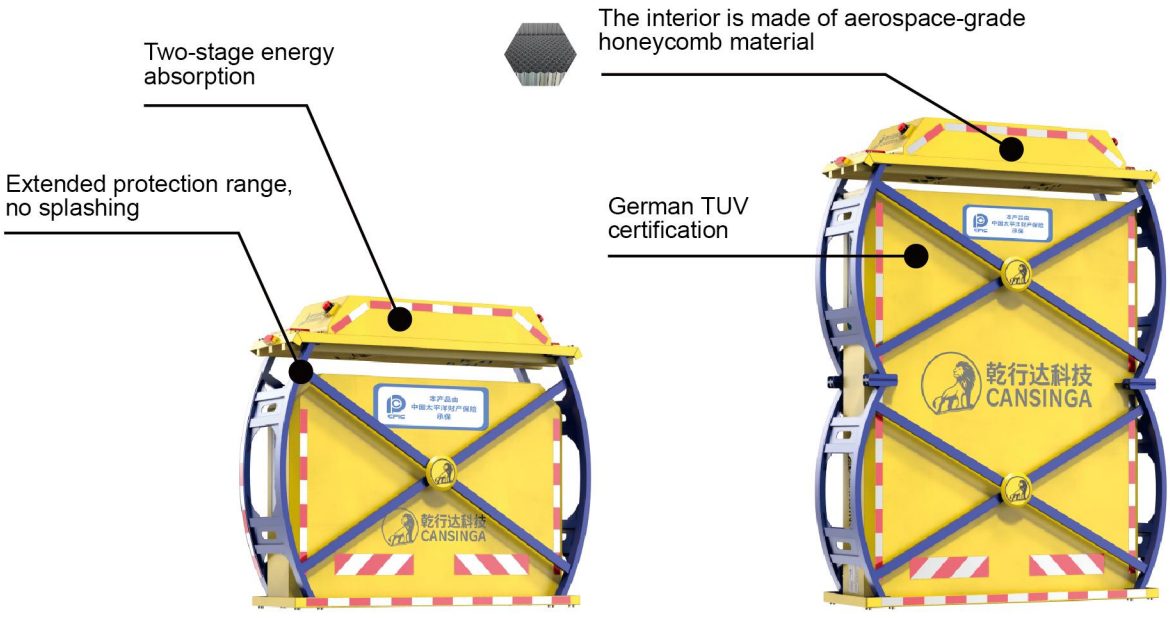
Aerospace-grade aluminum honeycomb core, with a lifespan of up to 15 years.

Aerospace-grade aluminum honeycomb material, with high energy absorption, lightweight, and corrosion resistance.

E70/80K

E100K

C Truck Mounted Attenuators



C-TMA-70/80K

C-TMA-100K

Product Introduction

The C-Series Truck Mounted Attenuators feature a modular design with multi-stage energy absorption. In the event of a minor collision, the product can be repaired quickly by simply replacing the auxiliary energy absorbing unit. When a high-speed collision occurs, the auxiliary energy absorbing device and the main energy absorption structure are deformed and energy absorbed, which increases the protection range of the impact danger angle, and makes the runaway vehicle slow down, so as to protect the life safety of the driver and passengers in the car.

Product parameters

Product Specifications	C-TMA-70K	C-TMA-80K	C-TMA-100K
Energy absorption capacity	(1100-2270)kg-70km/h	(1100-2270)kg-80km/h	(1100-2270)kg-100km/h
Ground clearance	200~300mm	200~300mm	200~300mm
Length	1650mm	1980mm	3120mm
Width	2055mm	2300mm	2300mm
Height	680mm	680mm	680mm
Weigth(Non-flip mechanism)	175kg	215kg	350kg

Vehicle configuration

Product Specifications	70/80k	100k
Curb Weight	3800-4495kg	9605-16000kg
Overall dim	5980×2040×2920（mm）	7900×2550×2870（mm）
Vehicle quality	4495kg	9800-16200kg
Number of passengers	2+3	2，3
Flip mechanism	90°/180°	
Warning system	Guide lights, arrow lights, strobe lights, LED displays	
Other configurations	Reversing image, intelligent active warning	

E Truck Mounted Attenuators

E-TMA-50/60K

E-TMA-70/80K

Features

· Wrapping energy-absorbing protection safety upgrade.

· The product quality has the highest specific energy absorption energy with the same anti-collision grade.

· The corrugated structure guide has a high vertical load carrying capacity.

E-TMA-100K

Product Introduction

The E-Series Truck Mounted Attenuators use a lightweight design with simple construction, high energy absorption, and vertical support. When a high-speed collision occurs, the integrated energy-absorbing structure and the gage-level honeycomb filled with the internal energy-absorbing unit are compressed and deformed, which ensures the direction of travel of the rear impact vehicle to a certain extent, and avoids the phenomenon of riding and climbing and drilling into the rear impact vehicle.

Product parameters

Product Specifications	E-TMA-50K	E-TMA-60K	E-TMA-70k	E-TMA-80k	E-TMA-100K
Energy absorption capacity	(1100-2270)kg-50km/h	(1100-2270)kg-60km/h	(1100-2270)kg-70km/h	(1100-2270)kg-80km/h	(1100-2270)kg-100 km/h
Ground clearance	200-300mm	200-300mm	200-300mm	200-300mm	200-300mm
Length	850mm	1150mm	1650mm	2055mm	3200mm
Width	2000mm	2000mm	2000mm	2200mm	2300mm
Height	650mm	650mm	650mm	650mm	650mm
Weigth(Non-flip mechanism)	95kg	125kg	150kg	185kg	295kg

Vehicle configuration

Product Specifications	70/80k	100k
Vehicle quality	3800-4495kg	9605-16000kg
Overall dim（Length **Width*Height）	5980×2040×2920（mm）	7900×2550×2870（mm）
Vehicle quality	4495kg	9800-16200kg
Number of passengers	2+3	2，3
Flip mechanism	90°/180°	
Warning system	Guide lights, arrow lights, strobe lights, LED displays	
Other configurations	Reversing image, intelligent active warning	

Trailer Truck Mounted Attenuators

T-TMA-70/80K

Product Introduction

When operating on highways, tunnels, bridges, and urban expressways at a standstill or low-speed, a rear-mounted center axle anti-collision trailer is connected to the specialized vehicle. It is efficiently installed and disassembled, enabling the vehicle to operate efficiently, conveniently, and safely. This effectively protects the construction personnel in the front and reduces the losses caused by rear-end collisions in accidents, significantly decreasing the occurrence of injuries and casualties during accidents.

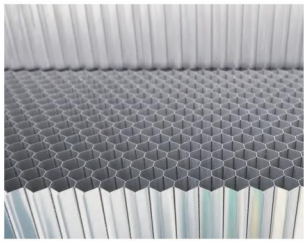
Product parameters

Product Specifications	T-TMA-70K	T-TMA-80K
Energy absorption capacity	(1100-2270)kg-70km/h	(1100-2270)kg-80km/h
The overall dimensions of the vehicle are length x width x height	3090x2200x2945mm	3090x2300x3055mm
Traction height	700mm	700mm
Dimensions of fixed connection parts（Length *Width*Height）	2460x2200x2945	2460x2200x2945
Weigth	1290kg	1330kg
Optional Components	Light Bracket, Display Screen, Dual Cameras	Light Bracket, Display Screen, Dual Cameras

National motor vehicle catalog announcement products

Lifespan

The CANSINGA Truck Mounted Attenuators have a lifespan of over 15 years and come with intermittent lifespan test reports such as salt spray (corrosion resistance) test, high and low-temperature tests, fire resistance test, etc.



Convenient Transportation

The Truck Mounted Attenuators are powered by two hydraulic cylinders controlled by electronic control. They are self-powered by a built-in battery, and the flipping of the attenuator only takes 10 seconds, making it efficient and quick.

Double protection

The trailer is equipped with dual braking systems, electronic brakes synchronized with the front vehicle, and manual brakes, ensuring safer construction operations.

Easy to link

The special connector for the mid-axle trailer is adopted, which is easy to connect and easy to disassemble.

Safe and Reliable

Long telescopic bars are installed on both sides of the connecting axle, allowing real-time length adjustment during construction operations. When connected tightly to the front bumper of the preceding vehicle, forming a three-point connection, it enhances stability and safety in the event of a collision, with a wider area of force distribution.

Human-Centered Design

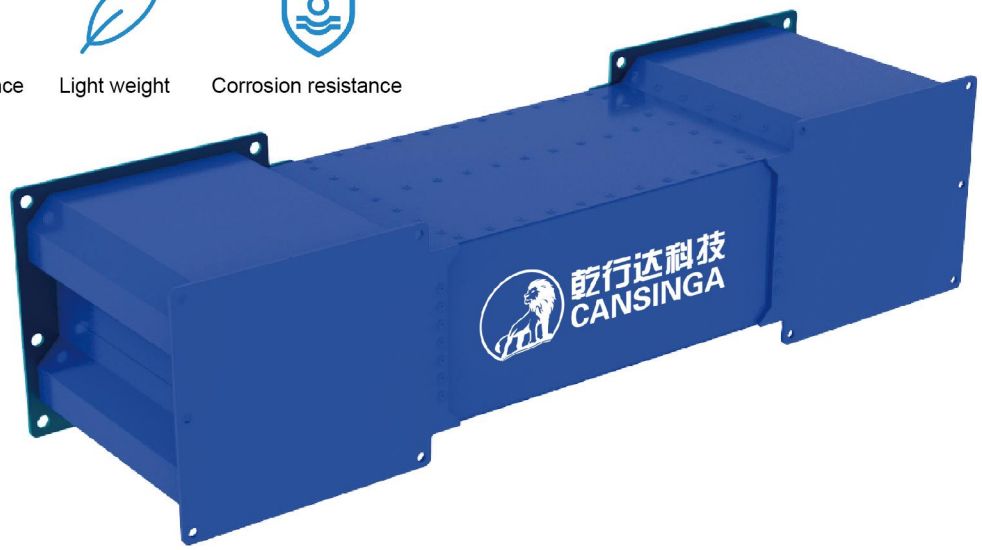
The front support leg of the trailer adopts the form of rollers, which is easy to move and save manpower, and has a height adjustment rotary handle, which can achieve highly accurate fine-tuning when matching with the front vehicle.

Rear Protection Device

Buffer good performance

Light weight

Corrosion resistance



Fulfills both criteria

《Requirements for Protection of Vehicles and undersides of irrigation Vehicles》
《Technical Conditions for the Safety of Operating Vehicles for the Road Transport of Dangerous Goods》

Product Introduction

The Rear Protection Device is made of aerospace-grade aluminum alloy material as a whole, which has the characteristics of good cushioning performance, light weight and corrosion resistance, which can not only meet the needs of general vehicles. The blocking function of the required rear protection and the rear underrun protection can play the role of deformation buffer energy absorption in the major rear-end collision accident, so as to ensure that the tank body does not rupture in the rear-end collision accident to the greatest extent, and give the greatest safety guarantee to the driver and occupants in the accident vehicle.

Enforce the standard

“GB 11567-2017”: Requirements for rear underrun protection of automobiles and tankers stipulates technical test methods for rear underrun protection devices.

"JT/T 1285-2020": "Technical Conditions for the Safety of Vehicles for Road Transport of Dangerous Goods" stipulates the technical and test methods of rear guards.

Product parameters

Product Specifications/Name	Hazardous Vehicle Rear Protection Energy Absorption Device
Energy absorption capacity	13.7t-40km/h
Length	1380mm
Width	400mm
Height	355mm
Weigth(Non-flip mechanism)	≤60kg

Value embodiment

- Downgrade the incident
- Reduce property damage
- Reduce the risk of accidents
- Minimize Casualties to the Greatest Extent

Hazardous Chemical Vehicle Crash Test

Full-scale Vehicle Crash Test National High-Intensity Frontal Collision Test

The maximum reduction speed of the bus is 8.5g, which is far lower than the national standard of 40g.

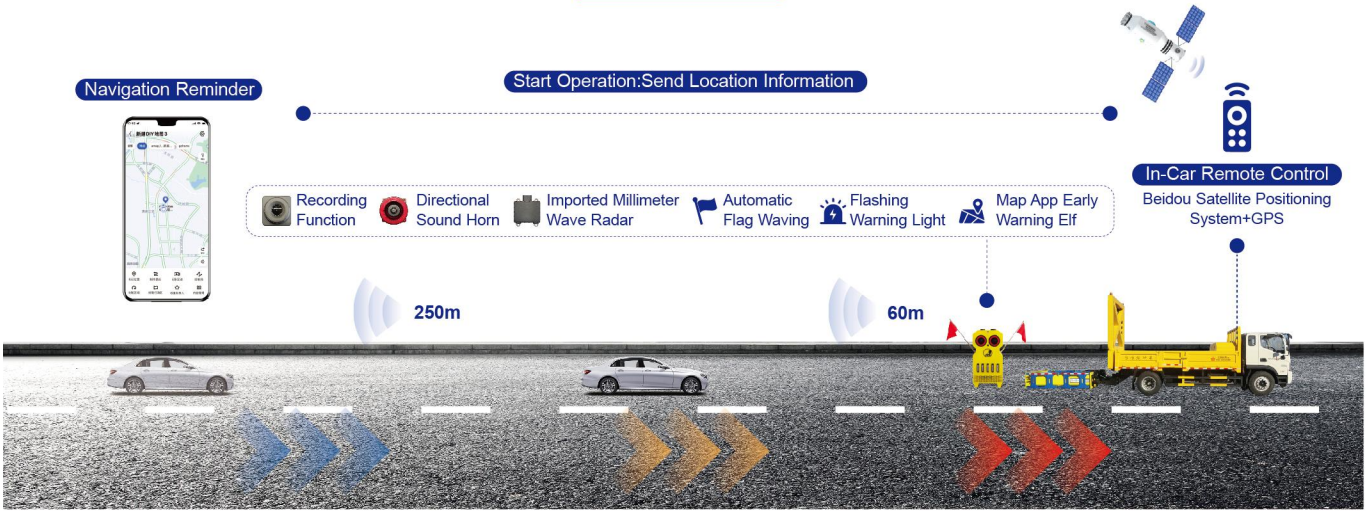
1.The bus did not penetrate the tank of the hazardous chemical vehicle.

2. The main beam structure of the hazardous chemical vehicle did not undergo unstable deformation.

3.The bus body structure is intact.

Product Delivery

Intelligent Early Warning System



Level 1 Alert

When the vehicle enters the transition zone for operation, located 250m upstream on the lane, and the speed is over 60km/h, the early warning system issues a Level 1 audible and visual alarm.

Level 2 Alert

When the vehicle enters the transition zone for operation, located within a range of 60m upstream on the lane, and the speed is over 30km/h, the warning system issues a Level 2 alert.

Synchronized Alarm

When the vehicle enters the transition zone for operation, located within a range of 60m upstream on the lane, and the speed is over 30km/h, the secondary alert is activated to send a warning signal to the work site, reminding on-site personnel to avoid in a timely manner.

System Functions

The system can accurately detect and track vehicles within a 300m range upstream of the work site lane. When a vehicle enters the transition zone for operation within a 250m range upstream and the speed is over 60km/h, the product issues a Level 1 alert. If the vehicle does not change lanes and enters the transition zone within a 60m range upstream, and the speed is over 30km/h, or if there are lane violations, erratic driving patterns, or potential threats to the safety of on-site personnel, the product issues a Level 2 alert. The main unit promptly sends audible and visual warnings to the aforementioned vehicles, reminding the drivers to pay attention to safety and change lanes promptly.

Product Introduction

The Intelligent Intrusion Warning System can provide customized products based on vehicle type, installation space, and customer needs. This product series includes three types of intelligent intrusion warning systems: vehicle-mounted, mobile, and split-type. They are mainly suitable for various special-purpose vehicle safety operations, such as sanitation vehicles, collision avoidance vehicles, and clearance vehicles, aiming to prevent accidents and minimize human and property losses.

Application Scenarios

Product Showcase

Vehicle-Mounted Intelligent Early Warning System

- High-precision algorithm, strong sound warning
- Integrated design, easy installation
- Long-distance perception, multiple warnings

Split-Type Intelligent Early Warning System

- Sales champion
- Customized sound source
- Modular design

Mobile Intelligent Early Warning System

- Imported radar, high-precision identification
- Dynamic warning, long-distance perception
- Highly integrated, portable design

Product Configuration

	Imported Millimeter Wave Radar	Directional Sound Horn	Flashing Warning Light	Remote Control	Recording Function	Map App Early Warning Elf	Control Panel	Automatic Flag Waving	Synchronized Alarm (Magnetic Suction Early Warning Secondary Unit, Smart Bracelet Early Warning Secondary Unit)
Vehicle-Mounted Intelligent Early Warning System	✓	✓	✓	✓	Optional Components	Optional Components	/	/	Optional Components
Mobile Intelligent Early Warning System	✓	✓	✓	✓	Optional Components	Optional Components	✓	✓	Optional Components
Split-Type Intelligent Early Warning System	✓	✓	✓	/	/	/	/	/	/

Product Parameters

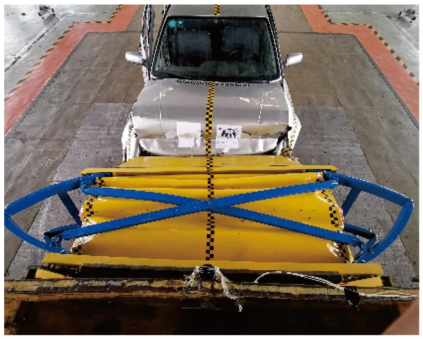
	Dimensions	Weight	Sensors	Operating Voltage	Maximum Detection Range	Lateral Monitoring Lane Width	Protection Level	Early Warning Secondary Unit	Camera	Early Warning Elf	Operating Environment	Power Supply	Horn Power
Vehicle-Mounted Intelligent Early Warning System	600×265×250	16	Imported Millimeter Wave Radar	DC9V~DC36V	250m	For 3 lanes	IP68	Wireless Transmission Distance	TF Card loop storage supports trajectory playback and remote viewing.	Gaode Maps Baidu Maps Tencent Maps	Temperature-40℃~85℃ Humidity10%~95% (Non-condensing)	Vehicle Power Supply DC12V/DC24V	300W+
Mobile Intelligent Early Warning System	460×250×900	32	Imported Millimeter Wave Radar	DC9V~DC36V	250m	For 3 lanes	IP68	Wireless Transmission Distance	TF Card loop storage supports trajectory playback and remote viewing.	Gaode Maps Baidu Maps Tencent Maps	Temperature-40℃~85℃ Humidity10%~95% (Non-condensing)	Battery Power Supply DC12V	300W+
Split-Type Intelligent Early Warning System	240×203×64	11	Imported Millimeter Wave Radar	DC9V~DC36V	250m	For 3 lanes	IP68	Wireless Transmission Distance	/	/	Temperature-40℃~85℃ Humidity10%~95% (Non-condensing)	Vehicle Power Supply DC12V/DC24V	300W+

Standard Testing

CANSINGA-TMA (Truck-Mounted Attenuators) is a collision cushioning device developed by CANSINGA for the safety protection of work vehicles. When a vehicle collides, it deforms and absorbs energy through its internal aerospace-grade aluminum honeycomb, causing the out-of-control vehicle to decelerate slowly. At the same time, the guiding frame can deform and slightly expand to the left and right, effectively avoiding serious collisions with the rear corners of the front vehicle, thus protecting the lives of the driver and passengers in the vehicle.

C-Series Real Vehicle Crash Test

CANSINGA-TMA is developed according to the latest MASH2016 crash test standards for impact attenuating devices, meeting the specified collision speed, acceleration, and other evaluation criteria.



Product Evaluation Criteria

"Manual for Assessing Safety Hardware 2016" is the latest evaluation standard for road safety facilities, which is issuedby the American Association of State Highway and Transportation Officials.

Frontal impact of 1100kg car at 50/60/70/80/100km/h

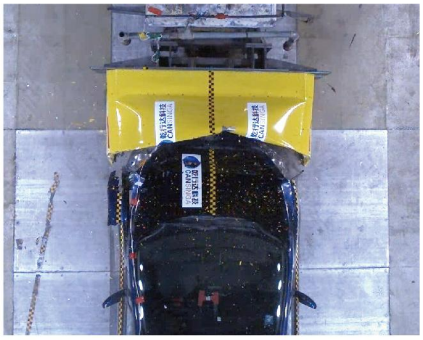
Frontalimpact of 2270kg car at 50/60/70/80/100km/h

Offset impact of 2270kg car at 50/60/70/80/100km/h

Offset angle impact of 2270kg car at 50/60/70/80/100km/h

E-Series Real Vehicle Crash Test

CANSINGA-TMA is developed according to the latest MASH2016 crash test standards for impact attenuating devices, meeting the specified collision speed, acceleration, and other evaluation criteria.



Aftermarket Vehicle

According to the safety operation requirements of local user units, different models of collision cushions can be optionally installed. The vehicles that can be retrofitted include double-row utility vehicles, pickup trucks, sanitation vehicles, etc.

Customized Service
Provide Retrofit Solutions for Different Vehicle Models

On-site Service
Can be Installed and Replaced Locally

Quick Replacement
Can be Replaced within 3 Days

Insurance Coverage
nsurance Coverage for Retrofitted Vehicles

Real Collision Case Studies

The full range of Cansinga collision cushions have been applied in 23 provinces and municipalities, including Guangdong, Jiangsu, Shandong, Shanghai, Beijing, etc. There have been over 500 accident cases with no reports of casualties.






















Application Cases

▲ C100-Anti-collision Buffering Vehicle

▲ C70-Anti-collision Buffering Vehicle

▲ E100-Anti-collision Buffering Vehicle

▲ E70-Anti-collision Buffering Vehicle

▲ Anti-collision Dangerous Chemical Vehicle

▲ Anti-collision Washing& Sweeping Truck

▲ Anti-collision Washing& Sweeping Truck

▲ Anti-collision Water Truck

▲ Accident Scouting Vehicle

乾行达科技
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